

NWS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

REVISED, PRINTED DATES: 04/16/2009, 08/22/2010

LOCATION: GUIDE ROCK
STREAM: REPUBLICAN RIVER
BASIN: REPUBLICAN 10 HSA: GID

REFERENCES:

ANNUAL FLOOD DAMAGE REPORT-USE/MKC DISTRICT
NWS E-19 FORM - DECEMBER 7, 1993
RED CLOUD CHIEF-NEWSPAPER
SUPERIOR EXPRESS-NEWSPAPER
USGS STATION DESCRIPTION - NOVEMBER 15, 2000
USGS STATION DESCRIPTION - NOVEMBER 18, 2003
WATER RESOURCES DATA FOR NE-USGS
WB FORM 4004B-USWB 11-24-53
WS FORM E-19 10-14-80

ABBREVIATIONS:

BM - bench mark	EPA - Environmental Protection Agency
DS - downstream	IBWC - International Boundary and Water Comm.
US - upstream	MSRC - Mississippi River Commission
HW - high water	MORC - Missouri River Commission
LW - low water	NOAA - National Oceanic and Atmospheric Admin.
RB - right bank	NOS - National Ocean Survey
LB - left bank	NWS - National Weather Service
MGL - mean gulf level	TVA - Tennessee Valley Authority
MLW - mean low water	USACE - U.S. Army Corps of Engineers
MSL - mean sea level	USBR - U.S. Bureau of Reclamation
MLT - mean low tide	USGS - U.S. Geological Survey
MT - mean tide	USWB - U.S. Weather Bureau
WQ - water quality	NGVD - National Geodetic Vertical Datum
RM - reference mark	NAD - North American Datum
RP - reference point	

LOCATION IDENTIFICATION: GURN1
NWS INDEX NUMBER:
USGS NUMBER: 06853020

MAP OF GAGE LOCATION

LATITUDE: 40 04 05 SOURCE: USGS
LONGITUDE: 98 22 26

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 1: GAGE MAP

BENCHMARKS

ELEVATION OF GAGE ZERO: 1629.130 VERTICAL DATUM: NGVD 1929
LEVELING AGENCY AND DATE: 09/19/03 USGS CHECKBAR: 28.290
RATING AGENCY: USGS

BENCHMARK	DESCRIPTION	GAGE ZERO	DATUM
RM1	A STANDARD BRONZE TABLET SET IN THE RIGHT DOWNSTREAM WINGWALL OF THE BRIDGE.	13.340	1642.470
RM3	A CHISELED X ON THE SOUTHWEST CHANNEL LEG OF THE GAGE HOUSE FRAME.	13.130	1642.260
RM4	A CHISELED X ON THE LEFT END, DOWNSTREAM HANDRAIL SUPPORT.	15.060	1644.190
RP1	A CHISELED X ON THE 27TH DOWNSTREAM GUARDRAIL UPRIGHT FROM CEMENT FROM THE RIGHT EDGE OF THE BRIDGE OR STATION 213 ON THE BRIDGE.	15.205	1644.335
USC&G	USC&G BM M-268 IS A STANDARD BRONZE DISC SET IN THE UPSTREAM WINGWALL OF THE BRIDGE.	13.030	1642.160
WWCB	WWCB IS LOCATED AT BRIDGE STATION 133.	15.310	1644.440

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ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 2: BENCHMARKS

GAGES

DCP

TELEM

NESS ID: 402292CC
OWNER: STATENE
REPORT TIME: 0055
INTERVAL: 60

TYPE OF TELEMETRY:
OWNER:
PHONE NUMBER:
INTERVAL:
PAYOR/COST OF LINE: / \$

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	GAGE LOCATION/REMARKS
bubble	USGS	USGS	08/24/1950	01/31/1966	ORIGINAL GAGE WAS 3.1 MI UPSTREAM. STEVENS A-35 RECORDER, SERVOMANOMETER (4/19/63), DIGITAL PUCH TAPE RECORDER (9/24/65). A NEW RECORDER INSTALLED (10/19/61). GAGE DISCONTINUED 1/31/66. GAGE REESTABLISHED AT GUIDE ROCK 11/28/84.
wireweight	USGS	USGS	11/16/1960	11/28/1984	USGS ESTABLISHED THE RIVER GAGING SITE LOCATED 3.1 MILES UPSTREAM OF PRESENT SITE WITH AN A35 RECORDER.
bubble	USGS	USGS	11/29/1984		THE PRESENT SITE WAS ESTABLISHED WITH A SUTRON 8200 DCP, SUTRON ACCUBAR PRESSURE SENSOR, SAFE PURGE II DUAL VALVE HYDRO PURGE GAS CONTROL BY FLUID DATA SYSTEMS.
wireweight	USGS	USGS	11/29/1984		STATION WAS REESTABLISHED AT THE PRESENT SITE IN NOVEMBER 1984. CHECKBAR IS 26.74 FEET.

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 3: GAGES

HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
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WRD NE	08/24/1950	

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
-----	-----	-----	-----
bubble	USGS	08/24/1950	01/31/1966
wireweight	USGS	11/16/1960	11/28/1984
bubble	USGS	11/29/1984	
wireweight	USGS	11/29/1984	

ZERO ELEVATION	STARTING DATE
-----	-----
1629.130	08/24/1950
1624.130	11/03/1959
1616.150	11/29/1984
1629.130	10/07/2008

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
 ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
 NWS FORM E-19 PAGE 4: HISTORY

CRESTS

FLOOD STAGE: 11.00 ACTION STAGE: 9.00 BANKFULL STAGE: 10.50
 FLOOD FLOW: 4030 ACTION FLOW: 3555

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
09/20/1950	UNDEF	13.47	10300			X	
05/22/1951	UNDEF	14.82	14300			X	
07/14/1952	UNDEF	12.51	7980			X	
06/08/1953	UNDEF	10.43	2720			X	
05/23/1954	UNDEF	10.59	3010			X	
06/05/1955	UNDEF	15.15	10200			X	
07/05/1956	UNDEF	11.64	2700			X	
06/16/1957	UNDEF	20.73	29200			X	
08/17/1958	UNDEF	11.27	3020			X	
07/04/1959	UNDEF	14.26	5560			X	
06/23/1960	UNDEF	13.94	5640			X	
06/06/1961	UNDEF	14.60	6390			X	
07/19/1962	UNDEF	12.48	4380			X	
09/23/1963	UNDEF	9.04	1780			X	
09/08/1964	UNDEF	9.93	1740			X	
05/22/1965	UNDEF	15.08	6560			X	
11/03/1965	UNDEF	12.50	4230			X	
06/22/1967	UNDEF	13.16	4680			X	
04/13/1968	UNDEF	10.26	2280			X	
09/01/1969	UNDEF	14.33	5610			X	
04/19/1970	UNDEF	12.20	3100			X	
06/13/1971	UNDEF	14.06	4980			X	
07/11/1972	UNDEF	13.03	2930			X	
09/28/1973	UNDEF	14.78	5260			X	
10/11/1973	UNDEF	13.99	4090			X	
06/23/1975	UNDEF	13.61	2610			X	
06/24/1976	UNDEF	11.86	1350			X	
09/12/1977	UNDEF	14.31	3480			X	
08/03/1978	UNDEF	12.85	2120			X	
03/23/1979	UNDEF	14.56	3870			X	
04/03/1980	UNDEF	12.54	1850			X	
05/29/1981	UNDEF	14.50	3800			X	
05/12/1982	UNDEF	19.29	11700			X	
09/29/1983	UNDEF	19.91	12400			X	
04/22/1984	UNDEF	15.56	3650			X	
05/15/1985	UNDEF	13.63	7480				
09/06/1986	UNDEF	10.29	3310				
03/23/1987	UNDEF	10.77	3770				
07/19/1988	UNDEF	10.90	3900				
07/01/1989	UNDEF	12.25	5510				
08/03/1990	UNDEF	10.83	3830				
05/31/1991	UNDEF	7.69	1420				
07/13/1992	UNDEF	13.38	6080				
07/19/1993	UNDEF	14.47	9860				

SITE WAS MOVED AFTER 1984 TO CURRENT GUIDE ROCK
LOCATION.

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 5: CRESTS

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
03/06/1994	UNDEF	8.88	2220				
05/29/1995	UNDEF	-0.99	4000				
07/23/1996	UNDEF	11.64	4460				
11/17/1996	UNDEF	9.87	2660				
04/05/1998	UNDEF	7.74	1430				
05/21/1999	UNDEF	11.22	4250				
07/05/2000	UNDEF	12.40	5700				
03/10/2001	UNDEF	9.89	2560				
08/25/2002	UNDEF	5.38	367				
06/24/2003	UNDEF	7.28	1190				
05/19/2004	UNDEF	7.40	870				
06/18/2005	UNDEF	6.68	334				Maximum peak flow and maximum peak stage for the year.
08/19/2006	UNDEF	7.25	905				Maximum peak flow and maximum peak stage for the year.
05/06/2007	13:13	12.40	5942				
05/25/2008	08:30	14.06	8244				

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 5-2: CRESTS

LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
05/26/1964		0	
10/05/1991		0	
01/01/1998	2.30	0	

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
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Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 6: LOW WATER

CONDITIONS AFFECTING FLOW

MILES ABOVE MOUTH: 170.0 DRAINAGE AREA: 22040.0 POOL STAGE: 0.0

STREAM BED: COMPOSED MAINLY OF SHIFTING SAND AND GRAVEL.

REACH: A FEW MILES US-DS OF GAGE.

REGULATION: REGULATED BY HARLAN COUNTY DAM 65 MILES UPSTREAM AND BY
RETURN FLOW FROM IRRIGATED ACRES.

DIVERSION: FLOW DIVERTED FOR UPSTREAM CANALS & ALLOCATED WITHDRAWALS.

WINTER: CHANNEL SUBJECT TO FREEZING AND ICE JAMS ALTHOUGH ICE JAMS
ARE RARE.

TOPOGRAPHY: CHANNEL IS STRAIGHT FOR 300 FT ABOVE THE GAGE, AND BENDS TO
THE RIGHT 275 FT BELOW GAGE. THE CHANNEL IS ONE OF SAND
AND GRAVEL SHIFTING WITH HIGH FLOWS.

REMARKS:

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

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NWS FORM E-19 PAGE 7: CONDITIONS

DAMAGE	
STAGE	AREAS AFFECTED
11.00	FLOOD STAGE--MINOR AGRICULTURAL LOWLAND FLOODING OCCURS.
16.00	CONSIDERABLE AGRICULTURAL LOWLAND FLOODING TAKES PLACE. THERE IS ONE HOUSE NORTHWEST OF THE BRIDGE ABOUT 1/2 MILE.

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 8: DAMAGE

RIVER STAGE DATA

	35-	

	30-	

	25-	

	20-	20.73 06/16/1957
	-----	19.91 09/29/1983

16.00 - CONSIDERABLE AGRICULTURAL LOWLAND FLOODING TAKES PLACE. THERE IS ONE HOUSE NORTHWEST OF THE BRIDGE ABOUT 1/2 MILE.	-----	
	15-	15.56 04/22/1984
	-----	14.82 05/22/1951
	-----	13.99 10/11/1973
	-----	12.85 08/03/1978
	-----	11.86 06/24/1976
11.00 - FLOOD STAGE--MINOR AGRICULTURAL LOWLAND FLOODING OCCURS.	10-	10.90 07/19/1988
	-----	9.93 09/08/1964
	-----	8.88 03/06/1994
	-----	7.74 04/05/1998
	-----	6.68 06/18/2005
	5-	5.38 08/25/2002

	0-	
	-----	-0.99 05/29/1995

	-5-	

	-10-	

	-15-	

REACH: A FEW MILES US-DS OF GAGE.

ELEVATION ZERO: 1629.13

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 9: STAFF

CONTACTS

SQ	CONTACT/REMARKS	PHONE
1	RICHARD MONTGOMERY	402-257-2605
2	ROY MONTGOMERY	402-257-2605
3	NDNR CAMBRIDGE OFFICE MAINTENANCE.	308-697-3730

LOCATION: REPUBLICAN RIVER at GUIDE ROCK , NE
ID: GURN1 HSA: GID

Revised, Printed Dates: 04/16/2009, 08/22/2010
NWS FORM E-19 PAGE 10: CONTACTS